

Application No. 10/633,375
Amendment "E" dated March 23, 2009
Reply to Final Office Action mailed December 23, 2008

REMARKS

The Final Office Action, mailed December 23, 2008, considered and rejected claims 1-6, 8, 9, and 11-23. Claims 1-6, 8-9 and 11-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 4-6, 8, 11, 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cluster-Based Delta Compression of a Collection of Files, by Zan et al. (hereinafter "Zan"), in view of Draper, U.S. Patent No. 6,604,236 (filed Jun. 28, 1999) (hereinafter Draper), and in further view of Crudele, U.S. Patent Pub. No. 2002/0099726 (filed Jan. 23, 2002) (hereinafter Crudele). Claims 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, Draper and Crudele, in view of Forbes, U.S. Patent No. 6,381,742 (filed Jun. 29, 1998) (hereinafter Forbes). Claims 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, Draper and Crudele, in view of Henry, U.S. Patent No. 6,131,192 (filed Jun. 18, 1998) (hereinafter Henry). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, in view of Data Structures & Algorithm Analysis in C++, by Mark Allen Weiss (hereinafter Weiss). Claims 13, 14, 15 and 21-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, in view of Draper, and in view of Sliger et al., U.S. Patent No. 6,216,175 (filed Jun. 8, 1998) (hereinafter Sliger). Claims 16 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, in view of Sliger, and in further view of Forbes. Claims 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zan, in view of Sliger and Draper, and in further view of Henry.¹

By this response, claims 1 and 8 are amended and claims 13-23 are cancelled. Claims 1-12 remain pending.² Claims 1 and 12 are independent claims which remain at issue. Support for the amendments may be found within Specification ¶¶ 43-58 and 76-80.³

¹ Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

² The amendments and remarks presented herein are consistent with the information presented by telephone by patent attorney Thomas Bonacci (reg. no. 63,368).

³ Note that the paragraph numbers are taken from the published application, U.S. Patent Pub. No. 2005/0022175 (Jan. 27, 2005). It should also be noted that the present invention and claims as recited take support from the entire Specification. As such, no particular part of the Specification should be considered separately from the entirety of the Specification.

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As reflected in the claims, the present invention is directed generally toward embodiments for the delta compression of data. Claim 1 recites, for instance, in combination with all the elements of the claim, a method for intra-package delta compression. The method includes receiving information corresponding to a plurality of source files. For each of the files, a list of prospective delta inputs is generated which includes an entry for each other file. An iterator creates a delta for each prospective delta on each file's list of prospective deltas. The files are processed into a base file based upon a minimal package size. Signatures are calculated for each of the files. A manifest file is generated by creating a linked list of the files. The manifest file contains instructions needed to perform an extraction. The instructions are particularly ordered and the ordering of the instructions corresponds to an ordering of the linked list. The manifest file also contains a delta section, a copy section, a verify section, and a delete section. The file name and signatures for each file to be verified is saved in the manifest file. The manifest file, base file, and delta are packaged in a self-contained package.

Claim 12 recites a computer program product embodiment of the method of claim 1.

The Office asserted that the "claim language of . . . claim 1 is not clear."⁴ Claim 1 (the limitations of which are incorporated also into independent claim 12) has now been amended – as discussed by telephone – in order to clarify the claim language.

Independent claims 1 and 12 (as well as the respective dependent claims) were also rejected under 35 U.S.C. § 112 for being indefinite. Claim 1 (which is incorporated in claim 12) has now been amended to clarify the claim language. In particular, the same language amended to clarify the claim (above) now makes the appropriate distinctions between "deltas" and "delta inputs" in order to render the claim definite. The Applicants submit that the claim is now definite and therefore the rejections of claims 1 and 12 35 U.S.C. § 112 should be withdrawn. Accordingly, the Applicants respectfully request favorable reconsideration of the claims as now presented.

Independent claims 1 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Zan, in view of Draper, and in view of Crudele.⁵ As discussed by telephone, the amendments made to the independent claims alters the Examiner's interpretation of the claims and therefore the previous rejections under 35 U.S.C. § 103(a) as being

⁴ Office Comm. p. 3.

⁵ Office Comm. p. 8.

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unpatentable in view of Zan, in view of Draper, and in view of Crudele are now moot. Accordingly, the Applicants respectfully request favorable reconsideration of the claims as now presented.

The Applicants would like to address, however, certain aspects of the § 103 rejection(s) as they pertain to limitations introduced in the previous amendment. In particular, the Office asserted that "Zan discloses a linked list of the plurality of source files (optimal branching)."⁶ The Office asserted that Zan p. 3, Fig. 1, discloses "a linked list that covers edges (0,1), (1,2), (1,3) and (3,4)."⁷ The Applicants submit, however, that the "directed and weighted complete graph" of Zan p. 3, Fig. 1, does not teach or suggest the linked list of the plurality of source files as recited in the claim.

"A linked list consists of a sequence of nodes, each containing arbitrary data fields and one or two references ('links') pointing to the next and/or previous nodes. [One] benefit of a linked list . . . is that the order of the linked items may be different from the order that the data items are stored in memory . . . allowing the list of items to be traversed in a different order. A linked list is a self-referential datatype because it contains a pointer or link to another datum of the same type. Linked lists permit insertion and removal of nodes at any point in the list in constant time, but do not allow random access. Several different types of linked list exist: singly-linked lists, doubly-linked lists, and circularly-linked lists." (See "Linked list," available at http://en.wikipedia.org/wiki/Linked_list)

The directed graph of Zan is not a linked list and does not provide the requisite links pointing from one node to a next or previous node. Further, the "optimal branching . . . consist[ing] of the edges (0,1), (1,2), (1,3) and (3,4)"⁸ does not constitute a linked list. There are no links from an edge to a next or previous edge. Further, and importantly, the list of edges in Zan's optimal branching do not comprise a linked list because the edges (3,4) and (1,2) *both* comprise dead ends. Because both (3,4) and (1,2) are dead ends, the entire list of edges cannot be visited as a linked list because if you visit either (3,4) or (1,2) first, then you cannot arrive at the other.

⁶ Office Comm. p. 10.

⁷ Office Comm. p. 10.

⁸ Zan p. 3, Fig. 1.

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As such, the Applicants submit that the cited art, considered both separately and in combination, fails to teach or suggest generating a manifest file by creating a linked list of the plurality of source files, the manifest file comprising instructions needed to perform an extraction, the instructions being particularly ordered in the manifest file and the ordering of the instructions corresponding to an ordering of the linked list, and the manifest file comprising a delta section, a copy section, a verify section, and a delete section.

For at least the distinctions noted (as well as the changed interpretation of the claim(s) engendered by the amendments made to overcome the 35 U.S.C. § 112 rejections), the Applicants submit that rejections of claims 1 and 12 under 35 U.S.C. § 103(a) as being unpatentable in view of Zan, in view of Draper, and in view of Crudele would be improper and should be withdrawn. Accordingly, the Applicants respectfully request favorable reconsideration of independent claims 1 and 12 (as well as the respective dependent claims).

In view of the foregoing, Applicants respectfully submit that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicants acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

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In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

Dated this 23rd day of March, 2009.

Respectfully submitted,



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